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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/300,798	04/27/1999	KENNETH E. COOKE	REALNET.033A	4852

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SCHWABE, WILLIAMSON & WYATT, P.C.
PACWEST CENTER, SUITES 1600-1900
1211 SW FIFTH AVENUE
PORTLAND, OR 97204

EXAMINER

ARMSTRONG, ANGELA A

ART UNIT	PAPER NUMBER
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2654

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DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/300,798

Applicant(s)

COOKE, KENNETH E.

Examiner

Angela A. Armstrong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-9 and 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frederick (US Patent No. 5,768,126) in view of Laroche (US Patent No. 6,049,766) in further view of Bhadkamkar et al (US Patent No. 5,893,062) and Shepard (US Patent No. 5,943,347).
2. Regarding claims 1-9 and 11-20, Frederick teaches an audio mixer for mixing multiple audio data streams. Frederick teaches
receiving a first audio data stream at the Abstract and col. 5, lines 57-60
receiving a second audio data stream at the Abstract and col. 5, lines 57-60
Frederick does not specifically teach cross fading the samples. Refer to Laroche who teach a method of audio signal processing which modifies the time and or pitch scale of an audio signal via a cross-fading method.
Laroche teaches
Re-sampling or normalizing samples based on a desired sampling rate at col. 3, lines 42-43 and Figure 2, element 206
Applying cross-fade weighting to the samples at col. 4, line 14, and lines 44-45
Cross-fading samples at Figure 3B and Figure 4.

Laroche implements the weighted cross fading method in order to reduce conspicuous artifacts that are generated during audio signal processing at col. 2, lines 6-10.

Therefore, it would have been obvious to one of ordinary skill at the time of invention to modify the audio mixer of Frederick to implement a weighted cross-fading algorithm or mechanism as taught by Laroche, for the purpose of reducing artifacts during the mixing of data streams, as suggested by Laroche at col. 2, lines 6-10.

Frederick and Laroche do not specifically teach cross-fading data based in part upon a change in bandwidth capability of the communication link, wherein the sets of data correspond to a playback time. However, cross-fading audio data based upon changes in the network status and cross-fading data that correspond to a particular playback time was well known.

Refer to Shepard who teaches an apparatus and method for error concealment in an audio stream. Specifically, at col. 3, line 35 continuing to col. 5, line 24, Shepard teaches determining that there is a problem with a received packet, and inserts one cycle of a fundamental pitch period with a cross-fade to replace lost or dropped data, such that the cross-fade renders transitions between boundaries of existing, original data and any inserted data much smoother.

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify the system of Frederick to implement cross fading based in part upon a change in network status, as taught by Shepard, for the purpose of rendering transitions between boundaries of existing, original data and any inserted data much smoother, as suggested by Shepard.

Frederick does not specifically teach the specifics of cross fading the samples based on overlapped portions of the audio signals. However, cross fading data at the point of overlap was

well known. Refer to Bhadkamkar who teaches variable rate video playback with synchronized audio. Specifically, at col. 17, line 51 continuing to col. 18, line 20, Bhadkamkar teaches blending a first segment overlap with a second segment overlap, such that the blending can be accomplished using any appropriate technique that produces smooth transitions between the end of the first segment and the beginning of the second segment, such as cross fading.

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify the mixing system of Frederick to implement cross fading based on the overlapped portions of the data signals, as taught by Bhadkamkar, for the purpose of producing smooth transitions between the signals being mixed, as also suggested by Bhadkamkar at col. 17, line 65 – col. 18, line 2.

Response to Arguments

3. Applicant's arguments filed April 2, 2004 have been fully considered but they are not persuasive.

Applicant argues there is no teaching or motivation to combine the teachings of Frederick with those of Laroche to achieve the Applicant's recited claims. The Examiner argues Laroche specifically teaches the weighted cross fading method is advantageous in an audio system so as to reduce conspicuous artifacts that are generated during audio signal processing at col. 2, lines 6-10.

Applicant argues there is no teaching or motivation to combine the teachings of Frederick with those of Shepard to achieve the Applicant's recited claims. The Examiner argues Shepard specifically teaches cross fading based in part upon a change in network status for the purpose of

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rendering transitions between boundaries of existing, original data and any inserted data much smoother (see col. 3, line 35 continuing to col. 5, line 24).

Applicant argues neither Frederick, Shepard, Laroche or Bhadkamkur teach or otherwise suggest receiving a second data stream based at least in part upon a change in bandwidth capability of the network communication link. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela A. Armstrong whose telephone number is 703-308-6258. The examiner can normally be reached on Monday-Thursday 7:30-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (703) 305-9645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Angela A. Armstrong
Examiner
Art Unit 2654

AAA
June 26, 2004


RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER